



Washington's

TRANSPORTATION PLAN



Overview of the State & the Transportation System

I. State Overview

Washington's geographic and economic diversity presents challenges and opportunities for the transportation system. The geography of Washington ranges from rain forests in the far western part of the state to semi-arid regions in the interior. Different regions have different local economies, but they all depend on the state transportation system to move goods and raw materials to points all over the world.

GEOGRAPHY

The westernmost section of Washington is characterized by the Coast Range, ranging from the Willapa Hills in the southwest to the higher elevations of the Olympics in the northwest.

East of this range in the northern area lies Puget Sound, reaching south to Olympia and containing numerous islands and peninsulas.

East of Puget Sound and extending from north to south in the state is the Cascade Range, consisting of volcanic plateaus around Mount Rainier southward, and a mass of granite and glacial valleys in the northern section. The majority of the state's national forests are located in the Cascades region.



The Columbia Plateau, a large basin with a surface formed of vast lava flows, characterizes the southeastern part of the state. The Columbia and Snake Rivers cut deep trenches into the plateau. A portion of this area, the Palouse Hills, is covered by fertile, windblown dust (called loess); it is one of the



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OVERVIEW OF THE STATE AND THE TRANSPORTATION SYSTEM

state's most important agricultural regions. In the extreme southeast are the relatively low-lying Blue Mountains. Washington's northeastern corner is crossed by ranges of the Rocky Mountains.

Washington Geography Quick Facts

Washington is the 20th largest state in the U.S. with an area of 66,582 square miles.

Elevations range from sea level to 14,411 feet atop Mount Rainier.

Washington's coastline on the Pacific Ocean is 157 miles long.

The Columbia River, the largest river in the western U.S., drains the eastern section of Washington together with areas of Idaho, Montana, and Oregon, as well as a portion of British Columbia and Alberta, Canada. The river has a huge volume of flow, and the numerous drops along its course have been tapped for hydroelectric generation by a series of dams. The state's agricultural community also uses the water held by these dams for irrigation. The Columbia's principal tributaries include the Snake, Spokane, Wenatchee, and Yakima rivers. In addition, many smaller rivers flow west from the Cascade Range and the Coast Ranges. The most significant of these is the Chehalis River, which rises in the Cascades and flows west to Grays Harbor, an inlet of the Pacific Ocean.

Other state rivers include the Cowlitz, Nisqually, and Skagit. Puget Sound, the state's most significant body of water, is an inlet of the Pacific Ocean. Lake Chelan, a long, narrow glacial lake in the Cascade Range, is the largest natural lake in Washington. Additionally, large artificial lakes have been created behind dams on the Columbia River. Among these are Franklin D. Roosevelt Lake (behind Grand Coulee Dam) and Banks Lake (behind Dry Falls Dam).

Regional geographic differences require differing transportation spending requirements. For example, mountainous areas of Central and Eastern Washington require higher spending for winter snow and ice removal. But Western Washington may incur greater damage to roadways due to flooding during the fall and winter months, when rivers swell and overflow their banks onto streets, roads, bridges, and state highways.

ECONOMY



Washington's economy is also highly diverse. The state is a leading national producer of agricultural and forestry products and supports a strong manufacturing sector. It has also developed a strong high technology sector. Other important economic sectors are the fishing, tourism, and service industries.

In addition, Washington's strategic position in the United States and Northern Hemisphere makes it a major hub for trade

with Pacific Rim countries. The fact is, Washington is the most trade-dependent state in the country.

The various sectors of Washington's economy are each highly dependent on the effectiveness of the statewide transportation system. An efficient, predictable, and effective system increases economic productivity by lowering transportation costs and times, leaving more money for consumers, workers, and businesses.

Manufacturing

Manufacturing accounts for more than 15 percent of the state's annual gross product. Leading industries include transportation equipment, especially aircraft and aerospace equipment; wood products and paper; aluminum; industrial machinery; primary metals; printed materials; and precision instruments. Most industry is concentrated in the urban area along the east side of Puget Sound between Everett and Olympia; Seattle and Tacoma are the primary industrial centers.

Forest, farm, and fish processing facilities are generally located near the sources of raw materials — in the forests of the Cascades and Coast Range, in the eastern part of the state, and near the Pacific Coast and Puget Sound, respectively.

The manufacturing industry is heavily dependent on the state's roads, freight rail, marine ports and airports to receive raw materials and other imports. The industry is equally dependent on these facilities to deliver goods to transfer facilities and distribution centers destined for locations outside the state.

Forestry

Although jobs and production in the forestry sector have declined in recent years, forestry is still a major industry in Washington. The principal commercial tree species are Douglas Fir and Western Hemlock. Most wood is cut in the valleys of the Cascade Range and west toward the coast. Forty percent of the wood cut is used for lumber, about 40 percent is exported as logs or round sections, and the rest is used for other forest products such as pulp.

Highways are the primary route to move timber to ports, mills and other processing facilities. Timber also moves downriver on the Columbia/Snake River system on rafts and barges.

Fishing

Ports on Puget Sound and the Pacific Ocean support Washington's fishing industry. In terms of value, salmon accounts for about one-third of the catch, followed by oysters, crab, shrimp, and other shellfish.

This industry relies on port infrastructure to support boats and crews, processing facilities, and distribution centers. Processed seafood is shipped on highways to markets within the state and nationwide.



Technology

Washington State ranks sixth in the nation for jobs in the high technology sector. Computer software, biotechnology, electronics, medical equipment, and environmental engineering make up the majority of Washington's advanced technology businesses.

Washington's share of technology-based employment has increased significantly in the past decade. From 1985 to 1995, the state's relative share of private sector technology industries increased from 10 percent above the national average to 46 percent above the national average. As of October 2001, the high technology industry has equalized after a few years of dramatic growth. However, the industry continues to be a major source of employment and economic development in our state.

The high technology industry relies heavily on the state's shipping networks. More than three-quarters of our high technology products are shipped overseas or transported out of state.

Agriculture

The drier eastern part of the state has larger farms and ranches that produce commodities such as wheat, barley, potatoes, fruit, vegetables, and beef. Farms in the western part of the state produce primarily dairy products, poultry, and berries.

Apples, milk, potatoes, cattle, and wheat are the state's top five commodities. Nearly half of the nation's apple crop is produced in Washington.



Washington ranks among the top ten states for 36 separate agricultural commodities, leading in hops, spearmint oil, lentils, dry edible peas, wrinkled seed peas, Concord grapes, pears, sweet cherries, carrots and sweet corn for processing, and red raspberries. In recent years, the state's production of wine has significantly increased, and Washington is now a major player in the small winery sector.

The state's agricultural sector contributes \$5.4 billion each year to the state's economy. Agricultural products are moved primarily on the state's transportation network of highways, freight rail, river barges, and local roads.

Shipping origin, destination, and transshipment points include farms, storage and processing facilities, seasonal markets, and transfer facilities like marine and river ports. Movements occur within the state's region, across the state, and to out-of-state and international destinations. One-fifth of the state's apples and 90 percent of its hay are shipped overseas through Western Washington ports.

Tourism

Each year several million visitors contribute almost \$5 billion to the state's economy. They visit urban and rural areas, looking for Washington's famous places, outdoor activities, cultural attractions, or to visit friends and family.

The tourism industry relies on the state's highways, ferries, airports, and passenger rail to move visitors to their destinations. A rapidly growing cruise ship industry uses Washington's public ports for passenger boarding.



Trade

Washington is the most trade-dependent state in the country. While the state contains only 2 percent of the country's population, international trade supports one out of every three jobs in the state.

Uniquely positioned as a gateway to the global economy, Washington's location provides a favorable trade advantage. The state's ports are located one day closer to overseas Pacific Rim ports than U.S. ports in Oregon and California. This has helped to make the Ports of Seattle and Tacoma one of the top three container load centers in the Western Hemisphere. However, other West Coast ports are making extensive transportation investments to improve port-to-warehouse delivery times. With growing congestion ensnaring trucks and train traffic, Washington's geographic trade advantage is eroding. The four Cascade Gateway points-of-entry (Peace Arch, Pacific Highway, Lynden and Sumas) have seen an 80 percent increase in commercial



truck traffic since the enactment of the North American Free Trade Agreement (NAFTA) in 1993. Blaine, WA is the third busiest passenger vehicle crossing, and the fourth busiest commercial truck crossing along the U.S./Canadian border.

In today's era of globalization and increasing interdependence of the world economy, international trade is growing rapidly. In fact, the largest single category of trade through Washington's marine ports and airports is foreign imports that are landed here and then shipped from Washington to locations elsewhere in North America. In 2000, the total value of pass-through trade (imports and exports) in Washington reached \$107.1 billion.

II. State Transportation System Overview

The statewide transportation system is composed of many different transportation facilities and services. These individual systems — also called modes — are owned and operated by multiple entities, including local governments and agencies, state government, tribal governments, and private owners.

Some of the state system's facilities and services included in WTP are designated as Transportation Facilities and Services of Statewide Significance (TFSSS) — system components that are vital to the statewide network of transportation services. See Appendix D for selection criteria, a map, and a list that details each facility or service included in the TFSSS.

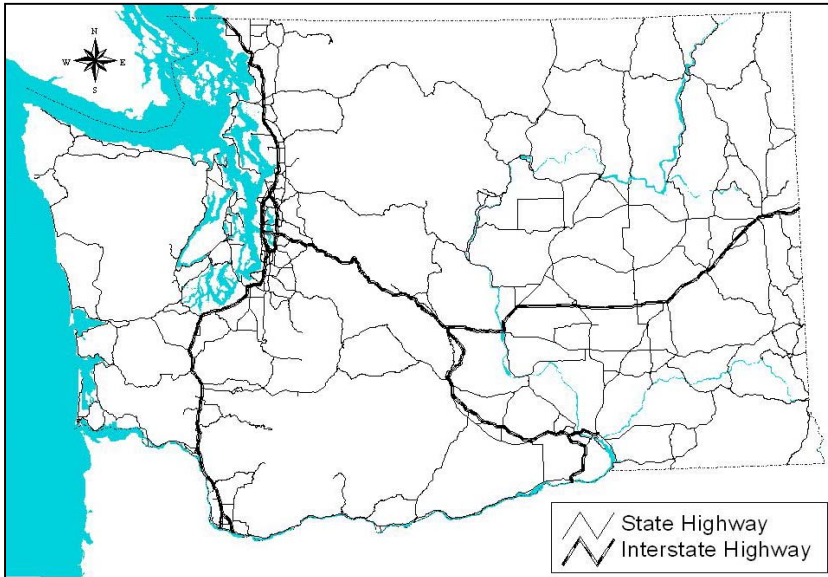
State-Owned Facilities: The state owns and operates state highways, Washington State Ferries, and state-owned airports. The state also owns eight daily trains of the Amtrak *Cascades* passenger rail system. The Oregon Department of Transportation owns four other trains on the Amtrak *Cascades* system. Amtrak is contracted to operate all twelve of the trains.

State-Interest Facilities: WSDOT planning activities address modes that the state does not own but has an interest in because of their importance to the entire transportation system. These modes include public transportation, freight, and other Amtrak long-distance trains, marine ports and navigation, bicycle and pedestrian transportation, and aviation (other than state-owned airports). These state-interest modes are mostly owned and operated by local agencies or private businesses.

Local Systems: Local city streets and county roads are a local responsibility, partially supported by revenues received from the state gas tax. Some local facilities may receive partnership funding directly from the state when improvements to local facilities demonstrate benefit to the state highway system.

The statewide transportation system's state-owned and state-interest facilities are described in the following pages. For the significance of these facilities in the various regions of the state, see Chapter Three. More detail about each of these modes is also available in their system plans and related research documents.

HIGHWAY SYSTEM

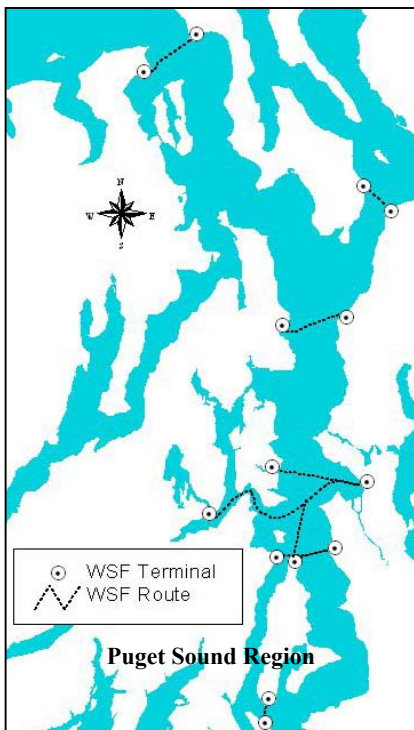


WSDOT owns and operates more than 7,000 centerline miles of state highways that link all parts of the state, including crossings of six mountain passes. WSDOT is responsible for the entire system, which includes more than 3,000 bridges, 34 tunnels, 43 rest areas, and 97,500 acres of roadside land. Water drainage on the system is managed through more than 42,500 culverts and outfalls and 33,500 catch basins. This system connects with an additional 73,000 centerline miles of county roads, city streets, and other state and

federal roads, providing basic access to and from all locations in the state.

For more detailed information about the state highway system, see the Highway System Plan. Visit www.wsdot.wa.gov/ppsc/hsp/hspplan.htm or contact the WSDOT Transportation Planning Office at 360-705-7958.

WASHINGTON STATE FERRIES



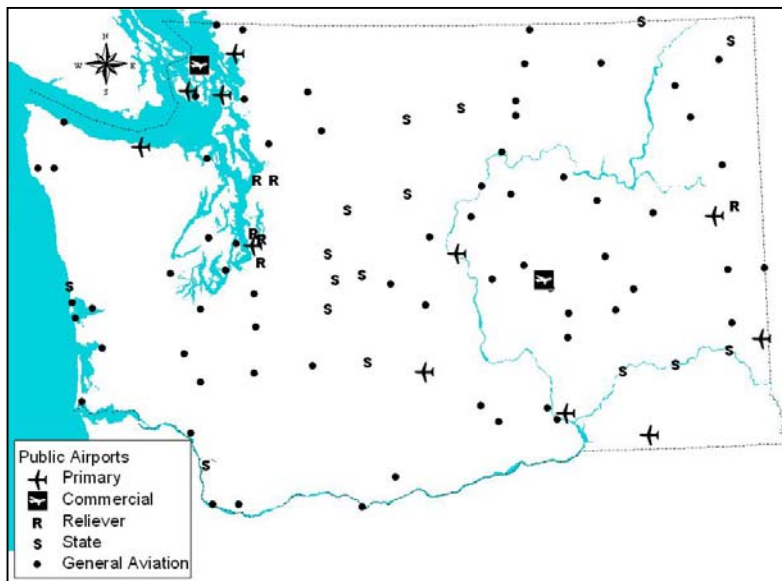
Since 1951, Washington State Ferries (WSF) has provided ferry service across Puget Sound and in the San Juan Islands. WSF is the largest ferry system in North America, operating 10 ferry routes with a fleet of 29 vessels, 20 terminals and a repair facility. Over the past decade, WSF experienced average annual increases of 3 percent in passenger traffic and 2 percent in vehicle traffic. In 2001, WSF carried 26 million passengers and 11 million vehicles. Ferry routes operate as extensions of state highways, moving people and goods across Washington's waterways.

The ferry system's long-range plan is currently being updated. For more detailed information about the Washington State Ferry System, visit

www.wsdot.wa.gov/ferries/index.cfm or call 1-888-808-7977.



AVIATION



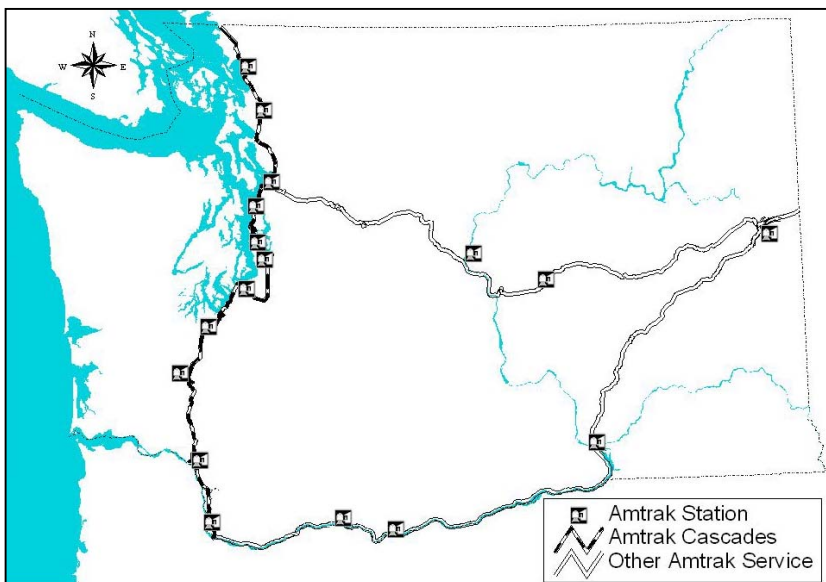
Washington's 129 public-use airports serve more than 30 million passengers each year. Eleven primary and two commercial service airports provide scheduled passenger service; 99 general aviation airports provide air access all across the state; and 16 state-owned airports provide emergency service. Every year more than 500,000 metric tons of air cargo pass through Washington's airports.

Public-use airports in Washington are owned by the state, ports, cities, and counties. While all are included in Washington's aviation planning efforts, WSDOT has

direct authority for only 16 state-owned emergency airports. For other airports, including Seattle-Tacoma (Sea-Tac) International and Spokane International, WSDOT maintains close ties through local airport authorities.

For more detailed information about the Aviation System, see the Aviation System Plan. Visit www.wsdot.wa.gov/Aviation/Planning/Planning-default.htm or call 1-800-552-0666.

PASSENGER RAIL



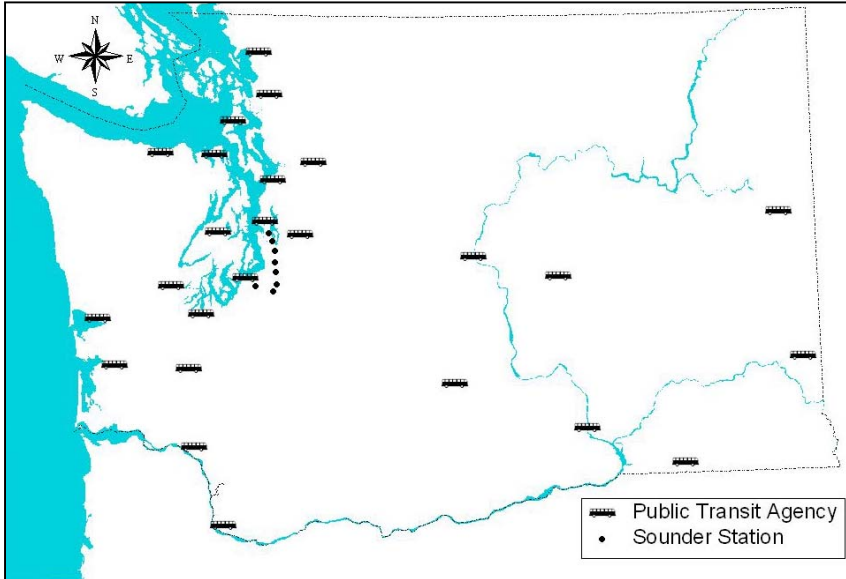
Amtrak's two long-distance trains, the *Empire Builder* and *Coast Starlight*, connect passengers in Everett, Spokane, Seattle, Vancouver, WA, and Pasco with one trip arriving from and one trip departing for both Chicago and Los Angeles each day. The state provides some indirect support for these services. In addition, the Amtrak *Cascades* intercity trains offer service on the 466-mile corridor from Vancouver, B.C. to Eugene, Oregon via Seattle and Portland. Currently, there are three round trips provided each day between Seattle and

Portland, one round trip provided each day between Seattle and Vancouver,

B.C. and one round trip each day between Seattle and Bellingham. Washington State supports the *Cascades* service by helping to fund the operation of eight of the service's 12 daily trains and by completing rail construction projects between the Columbia River and the Canadian border.

For more information about Amtrak Cascades, see the Amtrak Cascades Plan. Visit www.wsdot.wa.gov/pubtran/passrail/amcas.cfm or call 1-800-822-2015.

PUBLIC TRANSPORTATION



Public transportation services are delivered by local and regional agencies in Washington. Twenty-six public transit agencies provide fixed-route (scheduled stops) and demand-responsive (customer requested services such as “Dial-A-Lift”) services. All transit systems are compliant with the Americans with Disabilities Act (ADA). Accessible fixed-routes combined with complementary para-transit services provide basic mobility for special needs populations (the elderly,

persons with disabilities, and others) and the general public. Most transit agencies also provide vanpools, ridesharing services and programs, and park and ride facilities.

Private for-profit and non-profit agencies currently provide a range of transportation services, often limited by categorical eligibility requirements. The legislature created the Agency Council on Coordinated Transportation (ACCT), to improve the coordination of these services. Under the direction of ACCT, coordination activities are currently underway to improve service delivery efficiencies.

In the central Puget Sound region, Sound Transit provides high capacity transit, including bus and rail services. Sound Transit is a regional transit operator serving King, Pierce and Snohomish counties. Sound Transit's Sounder, a commuter rail service that shares railroad tracks with freight rail and Amtrak, currently offers roundtrip service between Seattle and Tacoma with expansion plans north to Everett and south to Lakewood. Light rail transit service in Washington State includes Seattle's Waterfront Streetcar, with expanded systems under development in the Puget Sound region and under study in Vancouver and Spokane. The Seattle Center Monorail provides service from downtown Seattle to the Seattle Center. An expanded monorail system is under study in Seattle and scheduled to be presented to city voters for approval in Fall 2002.

For more information about public transportation in Washington, visit www.wsdot.wa.gov/pubtran/transit or call 360-705-7922.

BICYCLE AND PEDESTRIAN TRANSPORTATION

Highways and streets should be designed to ensure that pedestrians and cyclists are safe when using these systems. In their own right, sidewalks, walking and bicycle trails, and bicycle lanes make up thousands of miles of the local transportation system. People walk and bike for various activities: commuting to work and school, recreation, visiting friends, shopping, personal errands, and making connections to transit or other transportation facilities.

For more information about Bicycle and Pedestrian Transportation, see the Bicycle and Pedestrian Plan. Visit <http://www.wsdot.wa.gov/ppsc/planning/pdf/bicycle.pdf>.

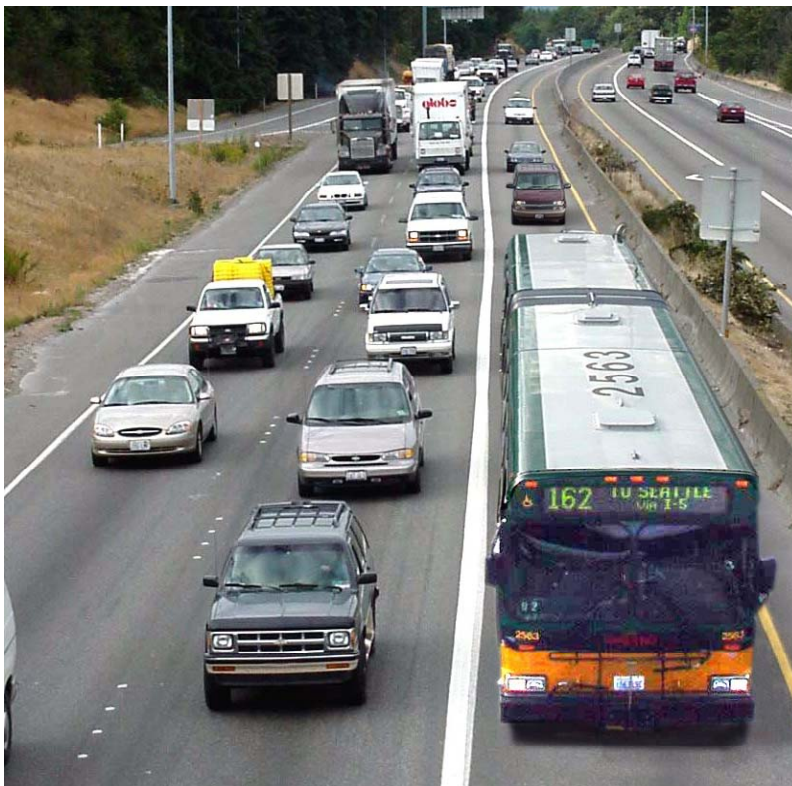
TRANSPORTATION DEMAND MANAGEMENT

WSDOT seeks to improve the efficiency of the transportation system by making use of Transportation Demand Management (TDM) strategies where possible. When effectively applied, TDM influences travel patterns that would otherwise overburden roads and highways. WSDOT implements its TDM programs in partnership with transit systems, local governments and major employers.

TDM strategies influence travel behavior using measures that move more people in fewer vehicles, shift the location or time of day at which vehicle trips are made, or reduce the need for vehicle travel.

A wide variety of TDM strategies can influence travel patterns. Some measures may be applied to address short-term travel constraints, such as congestion during construction, while others may be used as part of a long-term congestion relief strategy. Examples of TDM strategies include:

- Carpool/vanpool ride matching services (www.rideshareOnline.com);
- Alternative work hours;
- Priority carpool/vanpool parking;
- Telecommuting;

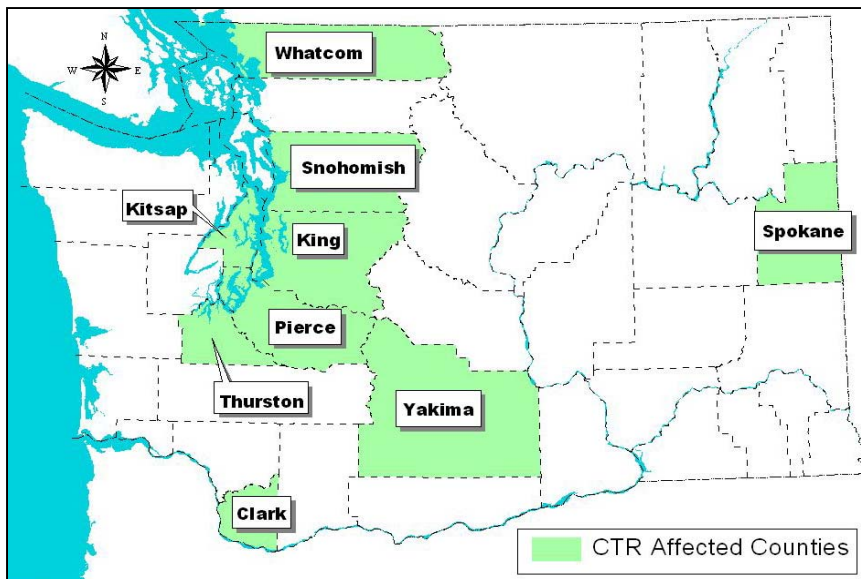


HOV Diamond Lane on I-5

- Financial incentives for High Occupancy Vehicle (HOV) commuters;
- Congestion pricing;
- Priority loading for HOVs on ferries;
- Vanpool programs;
- Customized bus services and bus passes;
- Park and ride lots;
- Parking management,
- Marketing non-drive-alone modes; and
- Land use planning.

Commute Trip Reduction

In 1991, the Washington State Legislature passed the Commute Trip Reduction (CTR) Law. The goals of the program are to reduce air pollution, traffic congestion, and energy consumption through employer-based programs that decrease the number of commute trips made in single occupant vehicles (SOVs).



The CTR Law affects the state's nine counties with populations of 150,000 or more — these counties are shown in the map to the left. The law requires employers in these counties with more than 100 employees to participate in the CTR program. An employee survey conducted in 2001 indicates that the CTR program has taken nearly 20,000 vehicles out of the morning commute period. Nearly 16,000 of these

vehicle trips have been removed from the Puget Sound region.

For more information about Transportation Demand Management, visit www.wsdot.wa.gov/choices/default.cfm or call (360) 705-7874.

FREIGHT RAIL

Washington's freight rail network plays a vital role in the transportation system. In 1998, railroads carried more than 75 million tons of freight in Washington. The state's freight rail network consists of 3,123 active route miles. Burlington Northern Santa Fe Railway owns 56 percent of the rail lines, Union Pacific Railroad owns 11 percent, and short-line railroads own 32 percent. Less than one percent of state railway is owned by switching and terminal companies. Nineteen common carriers currently operate on these rails. Washington's freight rail program provides grants to support short-line operations and ports, and conducts rail research and studies.

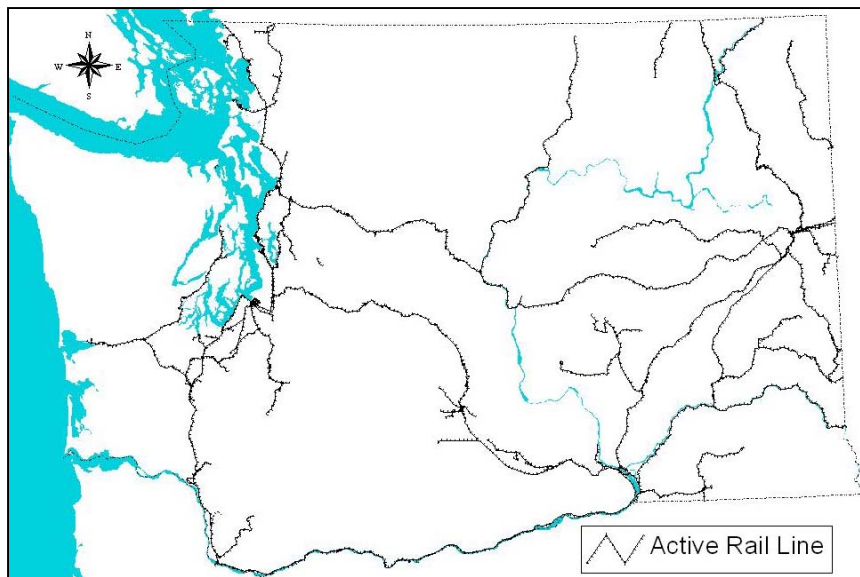


Freight train moving through the Yakima Canyon

Short-Haul Intermodal

Short-Haul intermodal service involves the use of both trucks and trains to move commodities over distances less than 700 miles. Washington State's major railroads typically focus their operations on distances greater than 700 miles, as truck transportation has provided faster, less expensive, and more direct service. But growing highway congestion and limited funds for

transportation improvements have stimulated renewed interest nationwide in the concept of short-haul truck-train transfer service. WSDOT intends to study the feasibility of expanding this type of service in the years ahead.



Grain Train

The Grain Train program grew out of chronic grain car shortages in the Palouse region of Eastern Washington. Started in

1994, the Grain Train program helps Washington farmers gain access to the deepwater ports of the Columbia River and Puget Sound. This program has not only alleviated a shortage of rail cars, but also prevents damage to highways and helps keep Washington farmers competitive in world markets by lowering their transportation costs.



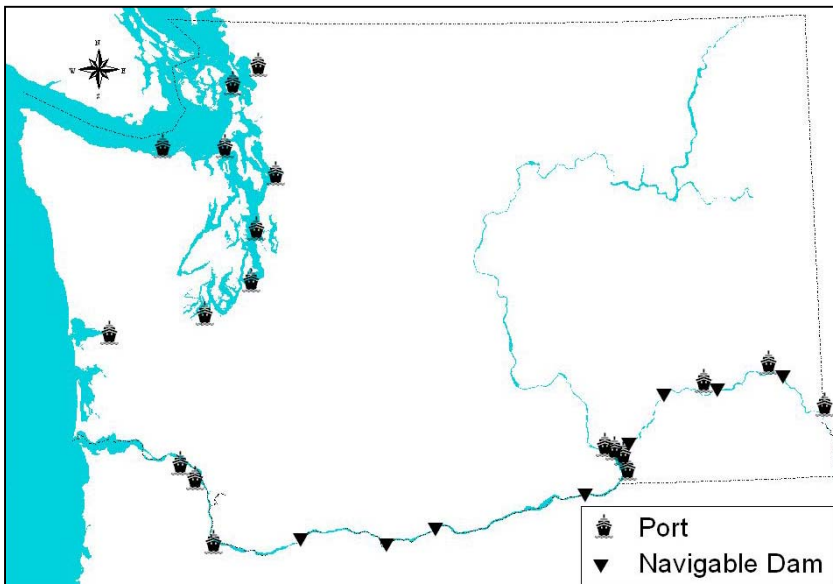
State of Washington Grain Train

Washington Fruit Express

The Washington Fruit Express carries Washington's fresh fruit and produce from Wenatchee to eastern states in special refrigerated railcars coupled to Amtrak's *Empire Builder* passenger trains. The Washington Fruit Express provides truck-competitive transit times and costs 10 to 15 percent less, giving Washington growers a competitive edge. It also relieves a shortage of long-haul trucks, saves fuel, reduces wear and tear on highways, and provides a new source of revenue to strengthen Amtrak. In September 2001, the Fruit Express made its inaugural run carrying more than 200,000 donated Washington apples toward food banks in the New York area for New Yorkers recovering from the September 11, 2001 attacks.

For more detailed information about the Freight Rail system, see the Washington State Freight Rail Plan. Visit www.wsdot.wa.gov/pubtran/freight or call 1-800-822-2015.

MARINE PORTS AND NAVIGATION



Washington's public ports along Puget Sound, the Pacific Coast, and the Columbia/Snake River System handle billions of dollars worth of international cargo every year. The ports are a vital link to truck and rail freight movement in Washington, handling goods and cargo originating from or destined for locations throughout the state, the United States, and overseas. Most of the state's waterborne commerce flows through 12 deep-water marine and river

ports and more than a dozen shallow-water facilities on the Columbia and Snake Rivers.

Freight movement in Puget Sound is becoming increasingly dominated by containerized cargo. The Central Puget Sound's ports of Seattle and Tacoma form one of the top three containerized cargo load centers in the Western Hemisphere.

Barge transport is used from upriver elevators on the Columbia/Snake River system and accounts for a substantial portion of grain exports via Lower Columbia ports. In addition, barge transport connects Puget Sound ports with shippers on the Olympic Peninsula and in British Columbia.

Local port districts operate and manage port facilities. The federal government provides navigation channels, locks, and navigation aids.

WASHINGTON'S TRANSPORTATION NETWORK

Transportation is an integral part of Washington State. Although the regions of Washington have different economies, natural settings, and transportation facilities, all of them depend on the state transportation system.

Demand for all of these systems is growing even as our public investments in these facilities are decreasing. The next section describes important transportation issues and trends affecting the state's transportation system. These issues and trends must be considered when planning our transportation investments in order to develop an improved system that works toward fulfilling the public's economic, social and environmental goals.